I claim:

1. A wetness monitoring apparatus for detecting wetness of an individual at a location of potential wetness, said wetness monitoring apparatus comprising:

a sensor formed by spaced conductors and an absorbent material, said conductors being spaced to produce an amount of resistance between said conductors, said absorbent material extending between said conductors and being adapted to absorb an amount of wetness, said amount of resistance between said conductors decreasing as said amount of wetness absorbed by said absorbent material increases, said sensor having an actual wetness value indicative of said amount of wetness absorbed by said absorbent material between said conductors, and said sensor being adapted for placement against the individual at the location of potential wetness;

a data collector having a data compiling processor, electric circuit, communication device and power source, said circuit including said spaced conductors of said sensor, said data compiling processor being programmed to use said circuit to obtain wetness measurement data corresponding to said actual wetness value of said sensor, and said data collector periodically generating and transmitting a data signal containing said wetness measurement data via said communication device; and

a control station having a receiver, control processor and an associated memory containing a predetermined wetness value, said receiver receiving said periodic signals containing said wetness measurement data, said control processor being programmed to compare each of said wetness measurement data with said predetermined wetness value, said control processor being further programmed to determine that a wetness event has occurred when a predetermined number of said wetness measurement data exceed said predetermined wetness value.

2. The wetness monitoring apparatus of Claim 1, and wherein said control processor is programmed to store said wetness measurement data in its said associated memory.

3. The wetness monitoring apparatus of Claim 1, and wherein said control processor determines that a wetness event has occurred when said predetermined number of said wetness measurement data fall below said predetermined wetness value.

4. The wetness monitoring apparatus of Claim 1, and wherein said data compiling processor is programmed to use said circuit at spaced intervals of time to obtain said wetness measurement data, and wherein each of said wetness measurement data are taken at separate points of time, each of said wetness measurement data corresponding to said actual wetness value of said sensor at said point of time.

5. The wetness monitoring apparatus of Claim 4, and wherein said predetermined number of said wetness measurement data are a consecutive series of wetness measurement data.

6. The wetness monitoring apparatus of Claim 4, and wherein said data collector includes a data memory, and said data compiling processor is programmed to store each of said wetness measurement data in said data memory, and each of said data signals contains a plurality of said wetness measurement data in said data memory.

7. The wetness monitoring apparatus of Claim 6, and wherein said data compiling processor is programmed to retain only a given number of wetness measurement data in said data memory, said given number of wetness measurement data being said wetness measurement data obtained most recently by said data compiling processor, and wherein each of said data signals contains each of said given number of wetness measurement data in said data memory.

8. The wetness monitoring apparatus of Claim 1, and wherein said memory of said data collector contains a predetermined power conservation value, said data compiling processor comparing each of said wetness measurement data with said power conservation value, said data collector being programmed to generate and transmit said data signals at a first rate when said wetness measurement data is above said power conservation value, and at a second rate when one of said wetness measurement data falls below said power conservation value.

9. The wetness monitoring apparatus of Claim 1, and wherein said wetness monitoring apparatus is used for a number of individuals, and wherein said predetermined wetness value in said memory of said control processor is one of at least two separate sensitivity levels, and said control processor is programmed to allow one of the individuals to have a first sensitivity level and another individual to have a second sensitivity level.

10. The wetness monitoring apparatus of Claim 1, and wherein said wetness monitoring apparatus is for a number of individuals and a number of healthcare workers, each healthcare worker being assigned to at least one specific individual, and wherein each individual has an associated data collector, and each of said data collectors sends periodic signals having a unique

code that identifies the associated individual, and further includes a paging transmitter and a number of pagers, each healthcare worker having one of said pagers, and said control processor is programmed to use said paging transmitter to send a signal to said pager of the healthcare workers assigned to the specific individual having said wetness event.

11. The wetness monitoring apparatus of Claim 1, and wherein said absorbent material is formed by a garment worn by the individual.

12. The wetness monitoring apparatus of Claim 1, and wherein said data compiling processor applies a voltage potential across said circuit, and said wetness measurement data is resistance measurement data.

13. The wetness monitoring apparatus of Claim 1, and wherein said sensor is removable from said data collector, and said data collector is provided with contacts, each contact being adapted to electrically engage a corresponding conductor of said spaced conductors, and a sensor fastener for removably securing said sensor to said data collector with each of said contacts in electrical communication with its said corresponding conductor.

14. The wetness monitoring apparatus of Claim 13, and wherein said data collector has a second electric circuit for determining when said sensor is properly secured to said data collector and a second communication device, said data compiling processor being programmed to use said second circuit to detect an event when said contacts of said data collector are in electrical

engagement with said conductors of said sensor and to use said second communication device to communicate that said event has occurred.

15. The wetness monitoring apparatus of Claim 14, and wherein said data collector is provided with a garment fastener for removably securing said data collector to a garment worn by the individual.

16. The wetness monitoring apparatus of Claim 1, and wherein said resistance between said spaced conductors is substantially infinite when said absorbent material is in a dry condition, and said data compiling processor is programmed to designate a predetermined maximum wetness value for said actual wetness measurement value when in said dry condition.

17. The wetness monitoring apparatus of Claim 1, and wherein said sensor is a strip and said absorbent material is a pad.

18. The wetness monitoring apparatus of Claim 16, and wherein said sensor strip includes a backing layer, and said spaced conductors are sandwiched between and enclosed by said absorbent pad and said backing layer.

19. The wetness monitoring apparatus of Claim 1, and wherein said communication device is a radio frequency transmitter.

20. A method of detecting wetness on an individual, said method of detecting wetness comprising the steps of:

providing a sensor formed by an absorbent material and spaced conductors, said conductors being spaced to produce an amount of resistance between said conductors, said absorbent material extending between said conductors and being adapted to absorb an amount of wetness, said amount of resistance between said conductors decreasing as said amount of wetness absorbed by said absorbent material increases, said sensor having an actual wetness value indicative of said amount of wetness absorbed by said absorbent material between said conductors, a data collector having a data compiling processor, electric circuit, communication device and power source, said circuit including said spaced conductors, and a control station having a receiver, control processor and associated memory containing a predetermined wetness value;

placing said sensor against the individual;

periodically obtaining wetness measurement data from said sensor at spaced intervals of time via said data collector, each of said wetness measurement data having a value indicative of said amount of wetness absorbed by said absorbent material at its corresponding interval of time;

periodically generating and transmitting said wetness measurement data from said data collector via said communication device to said control station via said receiver;

comparing each of said wetness measurement data with said predetermined wetness value;

determining that a wetness event has occurred when a predetermined number of said wetness measurement data exceed said predetermined wetness value; and,

communicating that said wetness event has occurred via said communication device of said control station.

21. The method of detecting wetness of Claim 20, and further including the step of storing said wetness measurement data in said associated computer of said control processor.

22. The method of detecting wetness of Claim 20, and wherein said associated memory of said control processor has a second predetermined wetness value, and further including a step of determining that a change event has occurred when said control processor receives wetness measurement data above a second predetermined value subsequent to a wetness event.

23. The method of detecting wetness of Claim 22, and wherein said control processor has an associated clock, and further including the steps of time stamping said wetness event, time stamping said change event, calculating a duration of time between said wetness and change events, and communicating said duration of time via said communication device of said control station.

24. The method of detecting wetness of Claim 20, and wherein said data collector includes a data memory, and further including the step of storing each of said wetness measurement data in said data memory, each of said data signals containing a given number of said wetness measurement data stored in said data memory.

25. The method of detecting wetness of Claim 24, and wherein said given number of wetness measurement data contained in one of said signals is fewer than said predetermined number of wetness measurement data needed to determine that a wetness event has occurred.

26. The method of detecting wetness of Claim 20, and wherein said data collector has a data memory containing a predetermined power conservation value, and further including the step of comparing each of said wetness measurement data with said power conservation value, said data collector generating and transmitting said data signals at a first rate when said wetness measurement data is above said power conservation value, and at a second rate when one of said wetness measurement data falls below said power conservation value.

27. The method of detecting wetness of Claim 20, and wherein said method of detecting wetness is for at least two different individuals, and further including a step of selecting said predetermined wetness value in said memory of said control processor from one of at least two sensitivity levels, a first sensitivity level being selected for one of the individuals and a second sensitivity level being selected for another of the individuals.

28. The method of detecting wetness of Claim 20, and further including the steps of removably connecting said sensor to said data collector to obtain wetness measurement data, disconnecting said sensor from said data collector after a wetness event has occurred, cleaning said sensor, and removably connecting said cleaned sensor to said data collector to obtain wetness measurement data.

29. The method of detecting wetness of Claim 20, and wherein said communication device of said control station includes a paging transmitter and a healthcare worker with a pager, and said step of communicating that said wetness event has occurred includes using said paging transmitter to send a page signal to said pager of the healthcare worker, said page signal containing a message indicating that the individual has had said wetness event.

30. The method of detecting wetness of Claim 20, and wherein said step of placing said sensor against the individual requires said sensor to be placed directly against the individual.

31. A data collection device for placement on an individual at a location of potential wetness, said data collection device comprising:

a sensor formed by spaced conductors and an absorbent material, said conductors being spaced to produce an amount of resistance between said conductors, said absorbent material extending between said spaced conductors and being adapted to absorb an amount of wetness, said amount of resistance between said conductors decreasing as said amount of wetness absorbed by said absorbent material increases, said sensor having an actual wetness value indicative of said amount of wetness absorbed by said absorbent material between said conductors, and said sensor being adapted for placement against the individual at the location of potential wetness; and,

a data collector having a data compiling processor, electric circuit, memory and power source, said circuit including said spaced conductors of said sensor, said data compiling processor being programmed to use said circuit at spaced intervals of time to obtain wetness

measurement data corresponding to said actual wetness value of said sensor, and said wetness measurement data being stored in said memory.

32. The data collection device of Claim 31, and wherein said data processor applies a voltage potential across said circuit, and said wetness measurement data is resistance measurement data.

33. The data collection device of Claim 31, and wherein said sensor is removable from said data collector, and said data collector is provided with contacts, each contact being adapted to electrically engage a corresponding conductor of said spaced conductors, and a sensor fastener for removably securing said sensor to said data collector with each of said contacts in electrical communication with its said corresponding conductor.

34. The data collection device of Claim 33, and wherein said data collector has a second electric circuit, said circuit being complete when at least one of said contacts is in electrical engagement with its said corresponding conductor, said data compiling processor being programmed to use said second circuit to determine when said sensor is properly secured to said data collector.

35. The data collection device of Claim 33, and wherein said data collector is provided with a garment fastener for removably securing said data collector to a garment worn by the individual.

36. The data collection device of Claim 31, and wherein said resistance between said spaced conductors is substantially infinite when said absorbent material is in a dry condition, and said

data compiling processor is programmed to designate a predetermined maximum wetness value for said actual wetness measurement value when in said dry condition.

37. The data collection device of Claim 31, and wherein said sensor is a strip and said absorbent material is a pad.

38. The data collection device of Claim 37, and wherein said sensor strip includes a backing layer, and said spaced conductors are sandwiched between and enclosed by said absorbent pad and said backing layer.

39. The data collection device of Claim 37, and wherein and said conductors are substantially parallel to each other.

40. A method of tracking a number of times a semi-reusable wetness sensor is used, said method of tracking comprising the steps of:

providing a semi-reusable sensor and a data collector, said sensor having a predetermined number of unmarked indicia, and said data collector having an alignment mechanism, a securement mechanism and a marking mechanism;

selecting one of said unmarked indicia of said sensor;

aligning said selected unmarked indicia of said sensor with said alignment mechanism of said data collector;

securing said sensor to said data collector via said securing mechanism;

marking a mark on said sensor via said marking mechanism, said mark appearing adjacent said selected indicia;

using said sensor to determine when a wetness event occurs;

removing said sensor from said data collector;

cleaning said sensor;

repeating said steps of selecting, aligning, securing, marking, using, removing and cleaning said sensor until all but a single one of said predetermined number of indicia has an adjacent mark;

aligning said alignment mechanism of said data collector with said single one of said indicia, and repeating said steps of securing, marking, using and removing said sensor; and,

removing said sensor from further use.

41. The method of tracking of Claim 40, and wherein said sensor is made of a deformable material, and said step of marking said sensor via said marking mechanism creates a lasting deformation in said sensor.

42. The method of tracking of Claim 41, and wherein said steps of securing said sensor and marking said sensor occur simultaneously.

43. The method of tracking of Claim 42, and wherein said indicia are holes extending through said sensor.

44. The method of tracking of Claim 43, and wherein said alignment mechanism is a pair of spaced posts, and each of said indicia are formed by a set of spaced holes, each set of said spaced holes being adapted to receive said spaced posts, and said step of aligning said sensor includes an alignment of one of said sets of spaced holes to receive said pair of posts.

45. The method of tracking of Claim 44, and wherein said sensor has longitudinal edges and a pair of spaced conductors extending along said length of said sensor, each conductor being a predetermined distance from one of said edges, and said data collector has a pair of spaced contacts, and wherein said step of aligning said sensor includes aligning each of said contacts to electrically engage one of said conductors.

46. The method of tracking of Claim 45, and wherein said contacts are adapted to pierce said sensor to electrically engage said conductors , and wherein said step of marking a mark on said sensor includes piecing said sensor strip.

47. The method of tracking of Claim 46, and wherein said sensor has a predetermined length defined by opposed ends, and said holes are located proximal one of said opposed ends.

48. The method of tracking of Claim 47, and wherein said securement mechanism is a sensor clamp.

49. The method of tracking of Claim 48, and wherein said alignment posts, sensor clamp and contacts combine to lock said sensor to said data collector.

50. A data collection device comprising:

a sensor strip having a layer of material, a top and bottom surface, and pair of conductive members, said conductive members being spaced a predetermined distance apart, and said sensor strip having a hole extending from said top surface through said bottom surface;

a data collector having a housing that holds an electric circuit, and said electric circuit having a pair of contacts that protrude through said housing, said contacts being spaced apart a distance substantially equal to said predetermined distance of said conductive members, said housing including an abutment adapted for alignment with said hole of said sensor;

a fastener adapted to secure said sensor to said data collector, said fastener being moveable between a release position and a secure position, said fastener being adapted to receive said sensor strip between said fastener and data collector when in said release position, and said fastener having a portion adapted to press said sensor strip against said contacts when in said secure position, said contacts piercing said sensor strip to electrically engage said conductive member when in said secure position; and,

a locking mechanism that locks said sensor strip to said data collector, said locking mechanism including said abutment, said abutment extending through said hole of said sensor strip when in said secure position.

51. The data collection device of Claim 50, and wherein said sensor strip includes a set of holes and said abutment is a set of posts, each of said holes in said set of holes being spaced a second predetermined distance apart, and said posts being spaced substantially said same second predetermined distance apart.

52. The data collection device of Claim 51, and wherein said portion of said fastener is a surface, and said surface includes post recesses for receiving said posts when said fastener is in said secure position.

53. The data collection device of Claim 52, and wherein said surface of said fastener includes contact recesses for receiving said contacts when said fastener is in said secure position.

54. The data collection device of Claim 53, and wherein said fastener is a U-shaped clamp having a middle portion and two ends, each of said ends snap fitting around said housing of said data collector, and said middle portion pressing said sensor strip against said contacts when in said secure position.

55. The data collection device of Claim 54, and wherein said posts and said contacts extend out from a surface of said housing and are substantially parallel, said posts extending further than said contacts, and said posts engaging said post recesses before said contacts engage said contact recesses when said fastener is being moved to said secure position, said posts guiding said contacts into alignment with said contact recesses.

56. The data collection device of Claim 55, and wherein said data collector has a U-shaped channel extending from said one side of said housing to an other side of said housing, and said contacts and posts extend from a bottom surface of said channel, and said U-shaped fastener is adapted to be received by said channel when in said secure position.

57. The data collection device of Claim 50, and wherein said posts are located between said contacts.

58. The data collection device of Claim 50, and wherein said sensor includes first and second layers of material, and said conductive members are positioned between and encased by said layers.

59. The data collection device of Claim 56, and wherein said first layer is an absorbent pad and second layer is a backing layer.